abcam

ab247486

Anti-CBL (phospho Y674) antibody [EPR2227] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR2227
Purification technique	Affinity purification Protein A
Concentration	1.028 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Not recommended

Species	Human
Dilution info	-

Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Target data

See full target information CBL pY674

Function E3 ubiquitin-protein ligase that acts as a negative regulator of many signaling pathways by mediating ubiquitination of cell surface receptors (PubMed:10514377, PubMed:11896602, PubMed:14661060, PubMed:14739300, PubMed:15190072, PubMed:17509076, PubMed:18374639, PubMed:19689429, PubMed:21596750, PubMed:28381567, PubMed:40101708). Accepts ubiquitin from specific E2 ubiquitin-conjugating enzymes, and then transfers it to substrates promoting their degradation by the proteasome (PubMed:10514377, PubMed:14661060, PubMed:14739300, PubMed:17094949, PubMed:17509076, PubMed:17974561). Recognizes activated receptor tyrosine kinases, including KIT, FLT1, FGFR1, FGFR2, PDGFRA, PDGFRB, CSF1R, EPHA8 and KDR and mediates their ubiquitination to terminate signaling (PubMed:15190072, PubMed:18374639, PubMed:21596750).

Recognizes membrane-bound HCK, SRC and other kinases of the SRC family and mediates their ubiquitination and degradation (PubMed:11896602). Ubiquitinates EGFR and SPRY2 (PubMed:17094949, PubMed:17974561). Involved in LAG3-mediated inhibition of TCR signaling: following ligand-binding to LAG3, catalyzes 'Lys-63'-linked ubiquitination of LAG3, unleashing the LAG3 C-terminus from the membrane, and initiating a signaling that prevents TCR activation (PubMed:40101708). Ubiquitinates NECTIN1 following association between NECTIN1 and herpes simplex virus 1/HHV-1 envelope glycoprotein D, leading to NECTIN1 removal from cell surface (PubMed:28381567). Participates in signal transduction in hematopoietic cells. Plays an important role in the regulation of osteoblast differentiation and apoptosis (PubMed:15190072, PubMed:18374639). Essential for osteoclastic bone resorption (PubMed:14739300). The 'Tyr-731' phosphorylated form induces the activation and recruitment of phosphatidylinositol 3-kinase to the cell membrane in a signaling pathway that is critical for osteoclast function (PubMed:14739300). In association with CBLB, required for proper feedback inhibition of ciliary platelet-derived growth factor receptor-alpha (PDGFRA) signaling pathway via ubiquitination and internalization of PDGFRA (By similarity).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab247486 is the carrier-free version of ab76536.

Species reactivity

Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

Patented technology

Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?

This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	The CBL protein also known as C-cbl or Casitas B-lineage lymphoma proto-oncogene serves as an E3 ubiquitin-protein ligase. This protein with a molecular mass of approximately 120-130 kDa plays a critical role in the regulation of receptor tyrosine kinases. It facilitates the polyubiquitination of activated receptor proteins targeting them for degradation in the proteasome. CBL is predominantly expressed in various tissues including the hematopoietic system. It is a significant component in the control of cell signaling and helps maintain cellular homeostasis.
Biological function summary	The CBL protein acts as a negative regulator for several signaling pathways. It integrates into signaling complexes and modulates the activation of pathways by interacting with other proteins. CBL does not act alone; it commonly forms complexes with proteins such as Grb2 and p85 influencing downstream signaling influence in pathways. This regulation prevents excessive activation of signals that can lead to cellular proliferation or differentiation abnormally.
Pathways	CBL integrates into the ubiquitin-proteasome system and the Ras signaling pathway. Within these pathways CBL works to modulate cell surface receptors ensuring that signaling threshold is not surpassed. The importance of CBL in the Ras signaling pathway is highlighted by its interactions with proteins like Ras-GAP and SHP2. Through these interactions CBL controls the rate of signal transduction affecting cellular responses such as growth survival and motility.
Associated diseases and disorders	CBL involvement has been linked to several forms of cancer and immune deficiencies. Mutations or dysregulation of the CBL gene can lead to myelodysplastic syndromes and acute myeloid leukemia. In these conditions the interaction between CBL and other proteins such as JAK2 becomes dysregulated driving abnormal cell growth and survival. Furthermore CBL's failure to properly degrade tyrosine kinase receptors can contribute to enhanced signaling fostering oncogenic processes.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

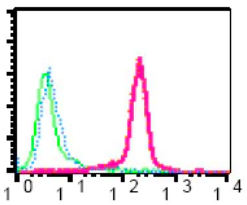
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

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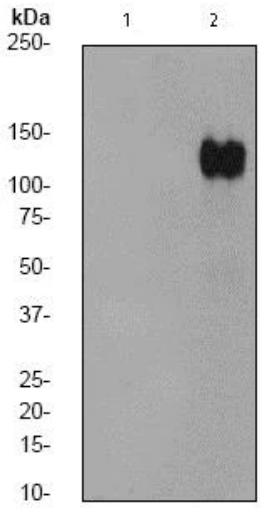
2 product images



Flow Cytometry (Intracellular) - Anti-CBL (phospho Y674) antibody [EPR2227] - BSA and Azide free (ab247486)

CBL (phospho Y674) Flow Cytometry (Intracellular) staining using rabbit Anti-CBL (phospho Y674) antibody

This data was developed using ab76536, the same antibody clone in a different buffer formulation. Intracellular flow cytometric analysis of permeabilized Jurkat cells, un-treated (green) or pervanadate treated (red) using ab76536 at a 1/20 dilution, and pervanadate-treated Jurkat cells using the same antibody pre-incubated with phospho-CBL peptide (blue) or non-phospho-CBL peptide (orange).



Western blot - Anti-CBL (phospho Y674) antibody [EPR2227] - BSA and Azide free (ab247486)

CBL (phospho Y674) Western blot staining using rabbit Anti-CBL (phospho Y674) antibody

This data was developed using ab76536, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-CBL (phospho Y674) antibody [EPR2227] (ab76536) at 1/1000 dilution

Lane 1:
Jurkat cell lysate at 10 µg

Lane 2:
Jurkat cell lysate treated with pervanadate at 10 µg

Secondary

All lanes:
HRP labelled goat anti-rabbit at 1/1000 dilution

Predicted band size: 100 kDa

Observed band size: 120 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.